## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community may repository should be consulted for possible updated or additional flood hazard information.

o obtain more detailed information in areas where Base Flood Elevations To obtain more detailed information in areas where Base Flood Elevations (EPE) and/or floodways have been determined users are encouraged to consult (EPE) and/or floodways have been determined users are reconsigned to consult tables contained within the Flood insurance Study (FIS) report that accompanies that FRM. Users should be aware that BFEs shown on the FRM represent counsed whole-flood elevations. These EFEs are intended for flood insurance contained whole-flood elevations. These DFEs are intended for flood insurance elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplan management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 National North American Vertical Datum of 1986 (NAVD 89). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Sillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Sillwater Elevations tables should be used for construction and/or floodplain management purposes when they are injury that the elevations shown on the Summary or Sillwater Elevations shown on the Information Sillwater Elevations shown on the Information Sillwater Elevations shown on the Information Sillwater Elevation Sillwater Sil

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this indestination.

The projection used in the properation of this map was Massachusetts State Plane Meritad once IPPS200E 5000, meters. The Morborathal datums NAD 83, GRS80 spheroid. Differences in datum spheroid, projection or State Plane zones used in the production or FIRMs for adjacent jurisdictions may be plane zones used on the production of FIRMs for adjacent jurisdictions must in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRMs.

Flood elevations on this map are referenced to the North American Vertical Datum Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground of 1988. These flood elevations must be compared to structure and ground conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <a href="https://www.nps.noaa.gov">https://www.nps.noaa.gov</a> or contact the National Geodetic Survey at the following addition of the following addition of the National Geodetic Survey at the following addition.

NGS Information Services NOAA N/NGS12 NOAA, NINGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Office of Geographic and Environmental Information (MassCills), Commonwealth of Massachusets, Executive Office of Energy and Environmental Affairs. This information was derived from digital corthophotos produced at a scale of 1:5,000 from serial photography dated April 2005.

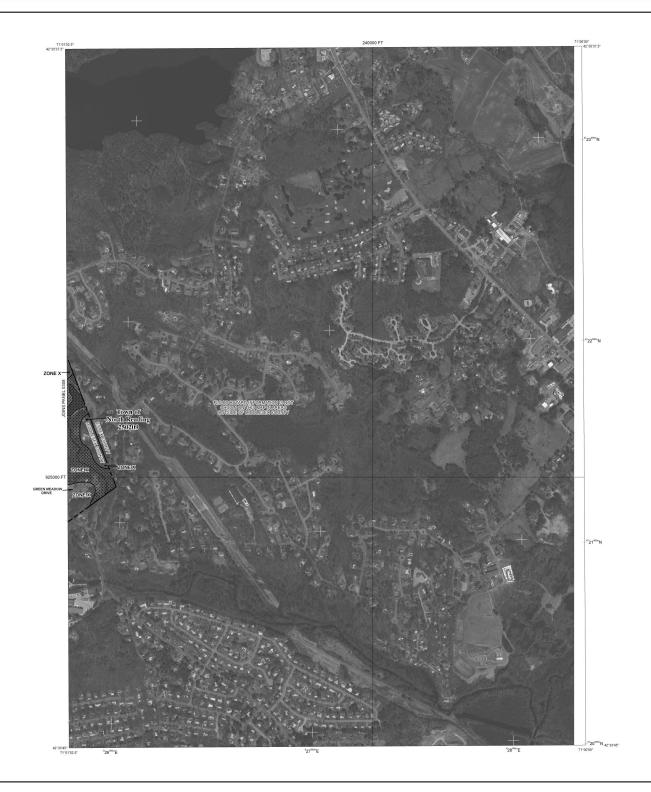
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred affert this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is community.

Contact the FEMA Map Service Center at 1-800-358-9618 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Plood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-900-359-9620 and in weekler at <a href="https://discretema.gov/">https://discretema.gov/</a>

If you have **questions about this map** or questions concerning the National FI Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627 visit the FEMA website at <a href="http://www.fema.gov">http://www.fema.gov</a>.



## **LEGEND**

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD 100000

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% armule thance flood. Area of Special Flood Hazard clude Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Blevition is the water-surface elevation of the 1% annual chance flood.

ZONE A

ZONE AE Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. ZONE AH

Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also ZONE AO

Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently described. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. ZONE AR

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations

Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. ZONE V

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encountment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

11//

ZONE X

OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain

Areas in which flood hazards are undetermined, but possible. COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

OPAs are normally located within or adjacent to Special Flood Hazard Areas

1% annual chance floodplain boundary 0.2% annual chance floodplain boundary

Floodway boundary

..... CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and -boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation value where uniform within zone; elevation in feet\* (EL 987)

Cross section line

(A)———(A) (2)————(2)

~~~ 513 ~~~

• M1.5

87°07'45", 32°22'30"

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone

5000-foot grid values: Massachusetts State Plane coordinate system, Mainland zone (FIPSZONE 2001), Lambert Conformal Conic projection

Bench mark (see explanation in Notes to Users section of this FIRM panel) DX5510 ×

River Mile

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Com Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insuragent or call the National Flood Insurance Program at 1-800-638-6620.





FLOOD INSURANCE RATE MAP

MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)

PANEL 309 OF 656

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

NATITIONIAL FLOOD

NUMBER PANEL SUFFIX COMMUNITY



25017C0309E

**EFFECTIVE DATE** JUNE 4, 2010

Federal Emergency Management Agency